
Air



Municipal Solid Waste Landfills, Volume 2:

Summary of the Requirements for Section 111(d) State Plans for Implementing the Municipal Solid Waste Landfills Emission Guidelines



**Municipal Solid Waste Landfills, Volume 2:
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State Plans for Implementing the
Municipal Solid Waste Landfill
Emission Guidelines**

EPA-456/R-98-009

Office of Air Quality Planning and Standards
U.S. Environmental Protection Agency
Research Triangle Park, North Carolina 27711

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ABSTRACT

This guidance document explains the State plan development and approval process, and explains the regulations developed under the Clean Air Act (CAA) as they apply to municipal solid waste (MSW) landfills. The CAA requires States to adopt and submit a State plan to implement the Emission Guidelines developed under the CAA. This document discusses the regulations developed under Section 111(d) of the Clean Air Act, focusing on Subpart Cc, Emission Guidelines for existing MSW landfills; and Subpart B, Adoption and Submittal of State plans for designated facilities. In addition, the document outlines and explains the required content of State plans, outlines the timeline and responsibilities for developing and submitting State plans, and answers general questions about how to prepare State plans. The appendices include reference materials States may need when developing State plans. For example, copies of relevant regulations, policy memos, procedures for estimating emissions, and a list of MSW landfill rule contacts who can assist in developing the State plan are included. This volume is one of a series of documents designed to assist States, EPA regional offices, and MSW landfill owners and operators in implementing the New Source Performance Standards (NSPS) and Emission Guidelines. Full references to all related documents are provided in the Executive Summary.

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Emission Guidelines
EPA-456/R-98-009**

Available at:

- (1) U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

Air and Radiation Docket and Information Center
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Phone: 202-260-7548
Docket Number: A-88-09
Item number: II-B-54

- (2) U.S. Environmental Protection Agency
Regional Office Libraries (Regions I-X)
(see Appendix C for Addresses)

- (3) U.S. Environmental Protection Agency
EPA Technology Transfer Network Website (TTN Web)

Unified Air Toxics Website: Rule and Implementation Information for
Standards of Performance for Municipal Solid Waste Landfills
<http://www.epa.gov/ttn/uatw/landfill/landflpg.html>

or

Office of Air Policy and Guidance (OAR P&G)
<http://www.epa.gov/ttn/oarpg>

The file is located under:

Actions Sorted by CAA Title
Title I
Policy and Guidance Memos.

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LIST OF ACRONYMS AND ABBREVIATIONS

AFS	Aerometric Emissions Information Retrieval System Facility Subsystem
CAA	Clean Air Act (of 1990)
CERCLA Liability Act	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
EPA	U.S. Environmental Protection Agency
FR	<u>Federal Register</u>
Mg	Megagram (2204 lb)
MSW	Municipal Solid Waste
MWC	Municipal Waste Combustor
NAAQS	National Ambient Air Quality Standards
NMOC	Non-methane organic compounds
NSPS	New Source Performance Standard
NSR	New Source Review
SIP	State Implementation Plan
TAR	Tribal Authority Rule
TTN Web	EPA Technology Transfer Network Website

EXECUTIVE SUMMARY

This is the second of two guidance documents designed to assist States, EPA regional offices, and Municipal Solid Waste (MSW) landfill owners and operators in implementing the New Source Performance Standards (NSPS) and Emission Guidelines. The NSPS apply to new landfills, whereas the Emission Guidelines pertain to existing landfills. States must develop State plans as part of the implementation process for the Emission Guidelines for existing landfills in their State. Indian Tribes are not required to submit Tribal plans, but may submit Tribal plans to implement and enforce the Emission Guidelines in Indian country. The purpose of this document is to explain the State plan development and approval process. This volume, "Municipal Solid Waste Landfills, Volume 2: Summary of the Requirements for Section 111(d) State plans for Implementing the Municipal Solid Waste Landfill Emission Guidelines," EPA-456/R-96-005 (MSW Landfills, Volume 2), draws together the relevant information from the various Federal regulations that affect existing MSW landfills to give the State regulatory agencies the information they need to develop State plans. Background information is provided on the MSW landfills regulations that have been developed under Section 111 of the Clean Air Act (CAA). States must include specific information in their State plans and must comply with a specific schedule. The required content of State plans and the adoption and submittal schedule are outlined below and are discussed in detail in the body of this guidance document. The first guidance document, Volume 1, and related documents that will assist States in developing their plans are briefly discussed in the section of this Executive Summary entitled "Related Documents."

This document is a revision of the final draft published in October 1996, EPA-456/R-96-005. It has been revised to reflect the amendments to the NSPS and Emission Guidelines published on June 16, 1998 (63 FR 32743) and to update other information.

Background

Air pollution emissions from MSW landfills are regulated by various federal regulations promulgated to implement the CAA of 1990. This document addresses the MSW landfills regulations that have been developed under Section 111 of the CAA. Section 111 of the CAA addresses Standards of Performance for Stationary Sources.

Federal air pollution rules promulgated in the Code of Federal Regulations (CFR) that affect MSW landfills include: (1) Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills [Title 40 CFR Part 60, Subpart Cc]; (2) New Source Performance Standards for MSW Landfills [Title 40 CFR Part 60 Subpart WWW]; and (3) rules governing the Adoption and Submittal of State plans for Designated Facilities [Title 40 CFR Part 60, Subpart B]. This document focuses on the Emission Guidelines and the rules governing State plans. Appendices G and H of this document contain the full text of Section 111(d) and Subpart B, respectively. Appendix I contains the full text of Subparts Cc and WWW, including amendments published on June 16, 1998 (63 FR 32743).

The Subpart Cc Emission Guidelines apply to existing MSW landfills. States with existing MSW landfills must implement the Emission Guidelines. As part of the implementation effort, States must develop a State plan and submit it for approval to the U.S. Environmental Protection Agency (EPA). Together, Subpart B and Subpart Cc specify the State plan content and the general rules for adopting and submitting State plans.

State plan requirements for MSW landfills are similar to those for municipal waste combustor (MWC) units because they are both regulated under Section 111(d) of the CAA. However, there are differences because MWC units are regulated under Section 129 of the CAA in addition to Section 111(d).

Section 129 addresses Solid Waste Combustion and does not apply to MSW landfills; therefore, State plans for MSW landfills will differ slightly from State plans for MWC units and other section 129 State plans.

State Plan Content

On March 12, 1996 the EPA adopted (1) Emission Guidelines for existing MSW landfills and (2) New Source Performance Standards for new MSW landfills. On June 16, 1998, EPA published a notice to amend, correct errors, and clarify regulatory text. These amendments did not affect the due date or the required contents of State plans for existing landfills. The CAA requires that State regulatory agencies implement the Emission Guidelines according to a State plan developed under Section 111(d) of the CAA, and that they submit the State plan to EPA within nine months of EPA's adoption of the Emission Guidelines. The CAA and the Tribal Authority Rule (TAR) allow, but do not require, Indian Tribes to develop Tribal plans in the same manner as States if the Indian Tribe meets criteria outlined in the TAR.

State plans must contain specific information and legal mechanisms necessary to implement the Emission Guidelines. The minimum requirements are listed below and are discussed in detail in Section 3 and Appendix J.

- Identification of enforceable State mechanisms selected by the State for implementing the Emission Guidelines;
- A demonstration of the State's legal authority to carry out the Section 111(d) State plan as submitted;
- An inventory of existing MSW landfills in the State affected by the Emission Guidelines. An existing landfill may be active (currently accepting waste or having additional capacity available to accept waste) or closed (no longer accepting waste nor having available capacity for future waste deposition).

- An inventory of emissions from existing MSW landfills in the State that are affected by the Emission Guidelines;
- Emission standards for existing MSW landfills that are no less stringent than those in the Emission Guidelines;¹
- A State process, as stipulated in § 60.33c(b) of Subpart Cc, for State review and approval of site-specific gas collection and control system design plans;
- Compliance schedules, extending no later than 30 months after the date the annual NMOC emission rate reaches or exceeds 50 megagrams (Mg) per year;
- Testing, monitoring, recordkeeping, and reporting requirements;
- A record of public hearing(s) on the State plan; and
- Provision for annual State progress reports to EPA on implementation of the State plan.

Schedule

States must adopt and submit a State plan to EPA within nine months (December 12, 1996) after promulgation of the Emission Guidelines. The State must make available to the public the State plan implementing the Emission Guidelines and provide opportunity for discussion of the State plan in a public hearing prior to submittal to EPA. EPA then has four months (April 12, 1997) to approve or disapprove the State plan. Plan approval or disapproval will be published in the Federal Register (FR). If a plan is disapproved, EPA will State the reasons for disapproval in the FR. If a State does not submit an approvable State plan, EPA will adopt and implement a Federal Plan.

¹On a case-by-case basis, the State may provide for a less stringent standard or a longer compliance schedule if the State demonstrates to EPA that the criteria in § 60.24(f) of Subpart B are met, and the EPA approves the standard or schedule. See Section 3.11 for additional information.

Related Documents

A number of related documents and resources are available that may prove useful to States, EPA regional offices, and landfill owners and operators.

These documents are available as indicated below, however, these and other landfill-related documents are available on the EPA Technology Transfer Network Website (TTN web) at:

<http://www.epa.gov/ttn/uatw/landfill/landflpg.html>.

- "Municipal Solid Waste Landfills, Volume 1: Summary of the Requirements, for the New Source Performance Standards and Emission Guidelines for Municipal Solid Waste Landfills," EPA-453/R-96-004 (MSW Landfills, Volume 1 is posted on the TTN web and explains landfills NSPS and Emission Guideline control, monitoring, recordkeeping and reporting requirements, and assists States in determining compliance. The document is also available in the docket (see address on page iv).
- "Municipal Solid Waste Landfill New Source Performance Standards and Emission Guidelines—Issues and Answers," is posted on the TTN Web and contains a periodically updated summary of answers to questions EPA has recently been asked about the MSW Landfills NSPS and Emission Guidelines.
- "Air Emissions from Municipal Solid Waste Landfills — Background Information for Final Standards and Guidelines," EPA-453/R-94-021 contains summaries of public comments received on the landfills NSPS and Emission Guidelines, EPA's responses, and the estimated impacts of these regulations. This document may be obtained from the TTN Web, the U.S. EPA Library (MD-33), Research Triangle Park, NC 27711, telephone (919) 541-2777, or from the docket (see addresses on page iv).
- EPA's Landfill Methane Outreach Program (LMOP). To cost-effectively reduce methane emissions from landfills, the EPA encourages the development of environmentally and economically beneficial landfill gas-to-energy projects through the LMOP. The LMOP works with States, utilities, and the landfill gas-to-energy industry to facilitate the

development of successful projects. One of the key ways the LMOP does this is by publishing technical information on how to develop a gas-to-energy project including current technology, cost, and financing options, and regulatory considerations. Appendix C includes information on how to contact LMOP.

- "Landfill Gas Emissions Model" Version 2.01 and User's Manual, September 1998. The computer model can be used to calculate annual emission rates as to determine applicability of the NSPS or Emission Guidelines or for State emission inventory or other purposes. The user's guide and diskettes can be obtained from the National Technical Information Services, as described in Appendix D, or accessed on the TTN Web at <http://www.epa.gov/ttn/catc/products.html#software>.

Appendix C includes information on how to contact landfill resources, including EPA regional and State contacts and EPA contacts for LMOP, the landfill model, implementation model, implementation issues, and other information. Documents posted on the TTN Web may be accessed by computer as described on page iv. The user can download an electronic copy from the TTN Web. Printed copies of the documents are available as discussed above.

1.0 INTRODUCTION

The purpose of this document is to assist the State air regulatory agencies in developing State plans that implement regulations controlling air pollutant emissions from municipal solid waste (MSW) landfills. The United States Environmental Protection Agency (EPA) has developed regulations to control air pollutant emissions from MSW landfills under the Clean Air Act of 1990. Emissions from new MSW landfills are addressed by standards of performance for new sources (New Source Performance Standards [NSPS]), and emissions from existing MSW landfills are addressed by standards of performance for existing sources (Emission Guidelines). EPA promulgated the NSPS (Subpart WWW) and Emission Guidelines (Subpart Cc) for MSW landfills on March 12, 1996, and published amendments on June 16, 1998. States are required to develop State plans to implement the Emission Guidelines for existing sources and submit the State plans to EPA by December 12, 1996. Indian Tribes may submit, but are not required to submit, Tribal plans to implement and enforce the emission guidelines in Indian country. This document provides State agencies and Indian Tribes information on the required content of these State plans. In some cases, local agencies, or protectorates of the of the United States may submit plans for landfills in their jurisdictions. The same guidance applies. The word "State plan" used throughout this document includes tribal plans developed by Indian Tribes and plans developed by agencies or protectorates.

Another document has been prepared to assist States, Tribes, EPA regional offices, and MSW landfill owners and operators in implementing the NSPS and Emission Guidelines. A September 1998 draft document entitled, "Municipal Solid Waste Landfills, Volume 1: Summary of the Requirements for the New Source Performance Standards and Emission Guidelines for Municipal Solid Waste Landfills," EPA-453/R-96-004 (MSW Landfills, Volume 1) is posted on the EPA Technology Transfer Network Website (TTN Web). The

September 1998 version of MSW Landfills Volume 1 replaces and updates a March 1996 draft to reflect the rule amendments published on June 16, 1998. Volume 1 provides a plain English summary of the requirements of the NSPS and Emission Guidelines. It contains example forms that may be used for reporting. It also contains tools, such as checklists, that may be used by regulatory agencies to determine landfill compliance with the rules. A question-and-answer document, "Municipal Solid Waste Landfill New Source Performance Standards and Emission Guidelines—Questions and Answers" is also posted on the TTN Web, and contains answers to questions EPA has been asked about the MSW Landfills NSPS and Emission Guidelines. The document may be updated as additional questions are received. The TTN Web address for these documents is <http://www.epa.gov/ttn/uatw/landfill/landflpg.html>.

1.1 Organization of this Document

This document brings together the information on the relevant parts of the various regulations that affect existing MSW landfills, i.e., those that were constructed, modified or reconstructed before May 30, 1991 and have not been modified or reconstructed since May 30, 1991 and that have accepted waste since November 8, 1987 or have additional capacity available for future waste deposition. These regulations were developed under Section 111(d) of the Clean Air Act. The regulations are codified in Title 40 of the Code of Federal Regulations (CFR). The CFR rules include (1) Adoption and Submittal of State plans for designated facilities, Subpart B, and (2) the Emission Guidelines for existing MSW landfills, Subpart Cc.

This document provides information on the relevant requirements of the Clean Air Act and the Emission Guidelines, and the required contents of State plans, including an overview of Clean Air Act, regulatory, and State plan requirements (Section 1); information on the timeline and responsibilities for developing and submitting State plans (Section 2); the elements of a State plan

(Section 3); and answers to some general questions about preparing State plans (Section 4).

The appendices of this document (Table 1-1) include reference materials that States may find useful when developing the State plans. The appendices include copies of Section 111(d), relevant regulations, policy memos, procedures for estimating MSW landfill emissions, and contact lists.

Table 1-1. Appendices to this Document

Appendix	Title
A	Emission Guideline Fact Sheet (40 CFR 60 Subpart Cc)
B	MSW Landfills Implementation Timeline
C	State, Regional, and Other Contacts
D	Emission Estimation Procedures for State Plan Emissions Inventory
E	New Source Review
F	Title V Operating Permits White Paper Number 2
G	Clean Air Act Section 111(d)
H	40 CFR 60 Subpart B
I	40 CFR 60 Subparts Cc and WWW, including the June 16, 1998 Amendments
J	Key Elements of an Acceptable Section 111(d) State Plan
K	Memo: Emission Inventory for MSWLF State Plans

1.2 Clean Air Act Requirements

Section 111(d) (see Appendix G) has been included in the Clean Air Act since the 1970's and requires EPA to establish procedures for submitting State plans for implementing Emission Guidelines. The landfill standard is a health-based Emission Guideline. Procedures and requirements for health-based Emission Guidelines are different from welfare-based. Because the landfills Emission Guidelines are health-based, this document focuses on the procedures and requirements for health-based Emission Guidelines. The first health-based Emission Guideline adopted was for sulfuric acid plants in 1977. Other health- and welfare-based Emission Guidelines have been adopted since that time. The State plans implement and provide for enforcing the Emission Guidelines. Detailed procedures for submitting and approving State plans were promulgated by EPA in 1975 as 40 CFR Part 60, Subpart B and amended in 1979, 1989, and 1995 (see Appendix H). The MSW landfill Emission Guidelines (Subpart Cc)

were promulgated on March 12, 1996, under the authority of Section 111(d) of the Act, and were amended on June 16, 1998.

The Subpart Cc Emission Guidelines for MSW landfills differ from those adopted for MWC units because MSW landfills are regulated under Section 111(d) of the CAA, whereas MWC units are regulated under Sections 111(d) and 129 of the CAA. Section 129 does not apply to MSW landfills. Therefore, the State plan requirements for landfills are slightly different than those for MWC units or other Section 129 State plans. In particular, Subpart B requires that State plans for MSW landfills be submitted to EPA within nine months after promulgation of Emission Guidelines; whereas the Section 129 requirements that apply to MWC units have a different schedule.

1.3 Indian Tribes and State Plans

Indian Tribes are not required to submit State or Tribal plans. However, Indian Tribes have the authority under the CAA to develop Tribal plans in the same manner States develop State plans. On February 12, 1998, EPA promulgated regulations that outline provisions of the CAA for which EPA is authorized to treat Indian Tribes in the same manner as States (see 63 FR 7254, Indian Tribes: Air Quality Planning and Management). If the Indian Tribe meets certain criteria, it may submit for EPA approval a Tribal plan to implement and enforce the Emission Guidelines in Indian country. If an Indian Tribe chooses to prepare a Tribal plan, the Indian Tribe would follow this guidance the same way as a State.

1.4 MSW Landfills Covered by State Plans

State plans must address existing landfills that are subject to the Emission Guidelines for MSW landfills. These Emission Guidelines outlined in Table 1-2 were promulgated on March 12, 1996 (61 FR 9905), and codified in

40 CFR Part 60, Subpart Cc. Amendments to clarify the Emission Guidelines were published in the Federal Register on June 16, 1998 (63 FR 32743). The amended rule will be published in Subpart Cc when the next version of the CFR is published.

**Table 1-2. Outline of the Emission Guidelines for MSW Landfills
(40 CFR Part 60, Subpart Cc)**

Section	Contents
60.30c	Scope
60.31c	Definitions
60.32c	Designated facilities
60.33c	Emission guidelines for municipal solid waste landfill emissions
60.34c	Test methods and procedures
60.35c	Reporting and recordkeeping guidelines
60.36c	Compliance times

The Emission Guidelines apply to existing MSW landfills, i.e., those that commenced construction, modification, or reconstruction before May 30, 1991 and that have accepted waste at any time since November 8, 1987 or have additional capacity for future waste deposition. New landfills (those that commenced construction, modification, or reconstruction on or after May 30, 1991) need not be addressed by State plans. Modification means an increase in the permitted volume design capacity by either horizontal or vertical expansion. New, modified, and reconstructed landfills are subject to the federal NSPS (40 CFR Part 60 Subpart WWW), which has similar requirements to the Emission Guidelines.

The pollutant regulated by Subpart Cc is MSW landfill emissions, which contain a mixture of VOC, other organic compounds, methane, and toxic pollutants. To determine whether control is required, non-methane organic compounds (NMOC) are measured as a surrogate for MSW landfill emissions. The NSPS and Emission Guidelines are summarized in a fact sheet included in this document (see Appendix A). The full text of the Emission Guidelines (Subpart Cc) including the direct final amendments is also provided (see Appendix I).

1.5 Requirements for State Plans

States are required to develop Section 111(d) State plans to implement the MSW landfill Emission Guidelines and to submit plans to EPA for approval. The first step for meeting the State plan requirement is to identify existing MSW landfills that are subject to the Emission Guidelines that are located in the State. If there are no existing MSW landfills in the State, then the State need only submit a letter of certification to that effect, which is called a negative declaration, and no plan is submitted. States may also submit negative declarations if they have no existing MSW landfills with design capacities greater than or equal to 2.5 million megagrams (Mg) and 2.5 million cubic meters (m³). Such negative declarations must include the design capacities of the landfills. (The Emission Guidelines do not require control for landfills with design capacities less than 2.5 million Mg or 2.5 million m³.) Existing MSW landfills that are closed must be included in the MSW landfill inventory if they have accepted waste at any time since November 8, 1987, or have additional capacity for future waste deposition.

States that have existing MSW landfills and have not submitted a negative declaration are required to submit a Section 111(d) State plan. As a minimum, the State plan must include the following elements which are discussed in detail in Section 3.0.

- Identification of enforceable State mechanisms selected by the State for implementing the Emission Guidelines;
- A demonstration of the State's legal authority to carry out the Section 111(d) State plan as submitted;
- An inventory of existing MSW landfills in the State affected by the Emission Guidelines;
- An inventory of emissions from existing MSW landfills in the State;

- Emission standards for existing MSW landfills;
- A process for State review and approval of site-specific gas collection and control system design plans;
- Compliance schedules;
- Testing, monitoring, recordkeeping, and reporting requirements;
- A record of public hearing(s) on the State plan; and
- Provision for annual progress reports to EPA.

The State plans are due to EPA by December 12, 1996. Table 1-3 summarizes the regulations for adopting and submitting State plans, as codified in Subpart B of 40 CFR Part 60, and specifies the required elements of the plans.

1.6 Relationship Between the Section 111(d) State Plan and SIP

The State plans for implementing the MSW landfill Emission Guidelines are different from State Implementation Plans (SIP) required by Sections 110 or 172 of the Clean Air Act. The State plan and the SIP are both programs for State implementation of federal requirements. For both, the administrative procedures, particularly the public hearing process, are the same. Both programs are designed to achieve emission reductions at sources by identifying the pollutant to be controlled, establishing the emission limits for the source, and establishing procedures to ensure that emission limits are met.

However, the States and EPA fulfill different responsibilities under the two programs. The goal of Section 111(d) State plans is to control the emissions of designated pollutants² by establishing standards of performance for

² The MSW landfills Section 111(d) Plans apply to MSW landfill emissions, measured as NMOC.

existing sources. Section 111(d) Emission Guidelines (including emission standards or performance levels) are based on demonstrated technology and are established by EPA on a national level, and the States are responsible for developing and implementing a program to achieve compliance with these standards. The goal of the SIPs, on the other hand, is to attain and maintain National Ambient Air Quality Standards (NAAQS) or ambient concentrations for certain criteria pollutants (lead, SO₂, PM₁₀, NO₂, CO, and ozone) in a given area. Hence, in the SIP program, the State

**Table 1-3. Regulations for Adopting and Submitting State Plans
(40 CFR 60 Subpart B)**

Section Number and Title		General Contents
60.20	Applicability	Subpart B applies when final guidelines (Subpart Cc) are promulgated.
60.21	Definitions	Defines key terms.
60.22	Publication of guideline documents, Emission Guidelines, and final compliance times	Describes contents of Emission Guidelines to be developed by EPA.
60.23	Adoption and submittal of State plans, public hearings	Schedules and procedures for States to follow in developing and submitting State plans. Requirements for public hearings on State plans.
60.24	Emission standards ^a and compliance schedules	State plans must include emission standards and compliance schedules. State plans may be no less stringent than the guidelines, except as provided in § 60.24(f).
60.25	Emission inventories, source surveillance, reports	Plans must include an inventory of existing MSW landfills and their emissions and provisions for monitoring compliance. States must submit progress reports to EPA.
60.26	Legal authority	Plans must demonstrate that the State has legal authority to carry out the plan as submitted.
60.27	Actions by the Administrator	Procedures for EPA review and approval or disapproval of plans. Federal Plans will be developed if States have not submitted timely and approvable plans.
60.28	Plan revisions ^b by the State	Procedures for revision of plans.
60.29	Plan revisions ^b by the Administrator	Procedures for revision of plans.

^a Note that "emission standards" can include any State enforceable mechanisms including, but not limited to, State rules (see Section 3.1 in this document).

^b Plan revisions refer to changes to a State Plan that is already in place.

establishes emission standards or standards based on the sources' contributions to local air quality, meteorology, and other local factors. The emission control requirements for a regulated source category under a SIP may vary from plant to plant based on local factors.

The States are responsible for implementing both Section 111(d) State plans and SIP programs, and both programs complement each other. Where the SIP requirements are adequate to meet the Section 111(d) standard, the State may elect to submit a Section 111(d) State plan that relies on the requirements in the SIP, Section 110, to meet the Section 111(d) emission standard. In addition, where the Section 111(d) requirements protect the NAAQS, the State may elect to rely on these requirements in the control strategy in the SIP.

2.0 SCHEDULE AND RESPONSIBILITIES

To develop a State plan to implement and enforce the Emission Guidelines, the States, EPA, and landfill owners and operators have specific responsibilities in developing, reviewing, and complying with State plans, as discussed below. Appendix B also discusses the timeline for MSW landfills to comply with the Emission Guidelines.

2.1 State Plan Schedule

States must submit a plan to implement and enforce the Emission Guidelines within nine months after promulgation of the Emission Guidelines. According to 40 CFR § 60.23(a), States are required by EPA to adopt and submit to the Administrator a plan implementing requirements of the Emission Guidelines. Within the nine months, or before December 12, 1996, States must develop a State plan, hold public hearings, and submit the plan to the Administrator. Figure 2-1 is a flow chart showing the approval process. Table 2-1 is a suggested schedule for developing State plans. The table shows more detail on the steps States need to take to develop State plans.

After the State plan is submitted, EPA is required to approve or disapprove the State plan within four months (approximately April 12, 1997). It is possible for the Administrator to approve a portion of the plan and disapprove another portion. EPA's decision to approve or disapprove each State plan will be published in the Federal Register (FR). Final decisions will be codified in 40 CFR Part 62, "Approval and Promulgation of State plans for Designated Facilities and Pollutants." If a plan is not approved, the basis for disapproval will be discussed in the FR notice. For plans that are disapproved, the State should submit a corrected plan that addresses these concerns. If a State does not submit an approvable plan, EPA will promulgate a Federal Plan for the State.

Under certain circumstances, a State may request an extension of the period to submit a plan or corrected plan (see Section 3.11.1).

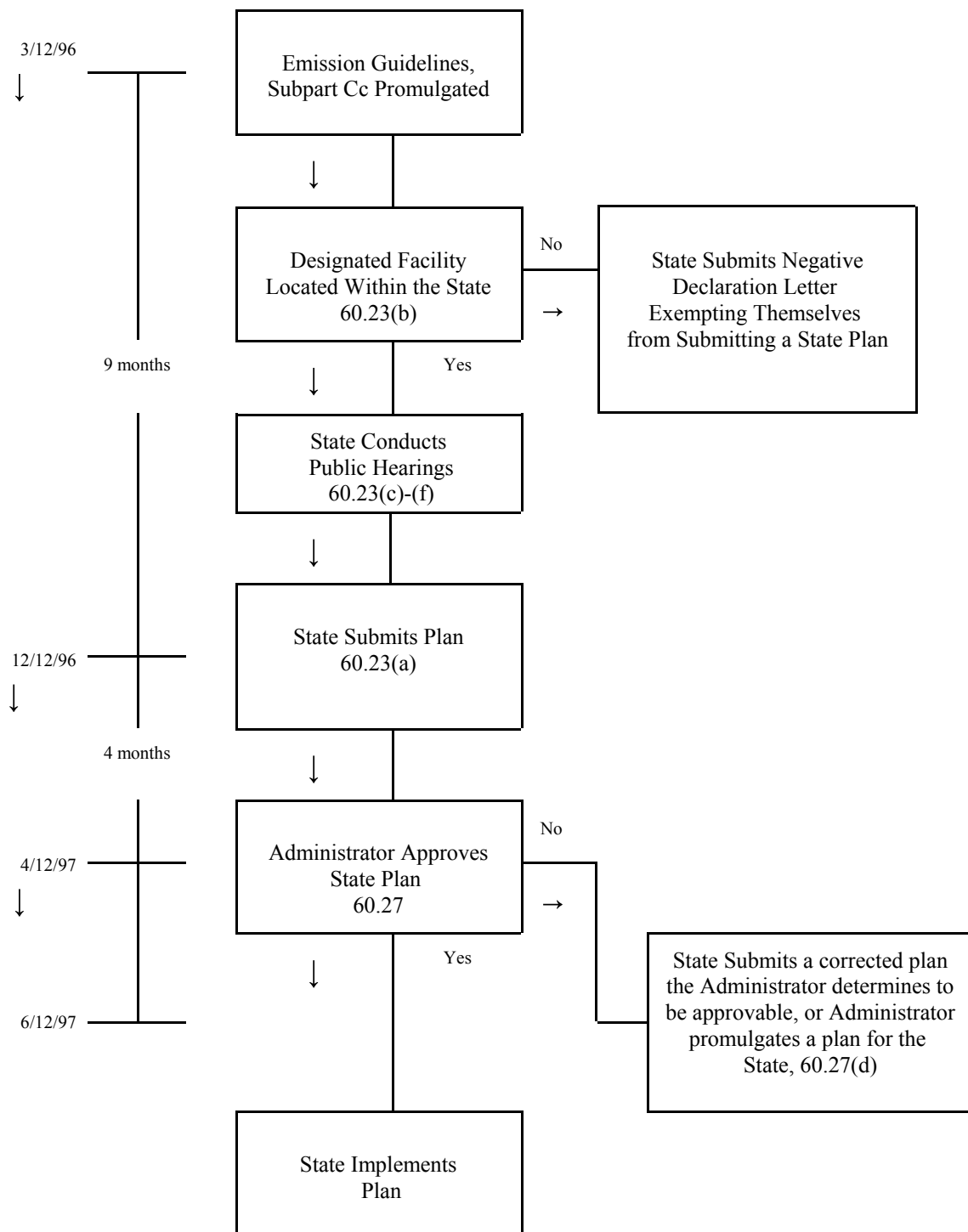


Figure 2-1. State Plan Approval Process and Schedule

Table 2-1. Suggested Schedule for Section 111(d) State Plans

Action	Date
EPA promulgates Emission Guidelines	March 12, 1996
EPA posts draft Guidance Document Volume 1 on the TTN Web	March 1996
State decides what State authority to use	April 1996
State starts rulemaking or other procedure needed to ensure State authority	May 1996
State starts drafting State plan	August 1996
State posts notice of public hearings	September 1996 (30 days before hearing)
EPA issues guidance on Section 111(d) State plans	October 1996
State completes rulemaking or other procedure needed to ensure State authority	October 1996
State completes public hearing on State plan	October 1996
State submits State plan to EPA (Regional Office) unless an extension is received	December 12, 1996
State responds to any clarifications requested by EPA	During the 4 month period following December 12, 1996
EPA approves/disapproves the State plan	April 12, 1997
EPA promulgates Federal Plan if State has not submitted an approvable State plan	1999 ^a

^aA Federal Plan is expected to be proposed in late 1998 and promulgated in 1999.

State plans may need to be modified in response to clarifying amendments to the Emission Guidelines. A direct-final notice to amend the guidelines was published in the Federal Register on June 16, 1998. Under 40 CFR § 60.23(a)(2), States have 9 months to adopt and submit to EPA plan revisions consistent with the revised Emission Guidelines. EPA would then review plan revisions and approve or disapprove them within 4 months. Because the amendments were primarily corrections and clarifications, any changes to State plans are expected to be minor.

2.2 Responsibilities

EPA, the States, and owners and operators of MSW landfills are responsible for implementing the Emission Guidelines. The primary responsibilities are outlined below.

2.2.1 EPA Responsibilities

Assisting State, Local, and Tribal Programs and MSW Landfill Owners and Operators. EPA assists State, local, and tribal agencies in developing approvable Section 111(d) State plans. EPA provides information, answers questions, and interprets federal requirements for the State and for MSW landfill owners and operators. EPA conducts outreach and compliance assistance programs. EPA identifies contact persons to answer States' questions, clarify approval criteria, and address specific implementation issues as necessary. States' questions should be directed to the appropriate EPA contact to ensure efficient and consistent responses. (See Appendix C for a list of State, regional, and other contacts.)

Review of State Plans. EPA is required to approve or disapprove the State plan within four months of the submittal due date (December 12, 1996). States must develop their Section 111(d) State plans according to the criteria in

this document and 40 CFR Part 60, Subpart B. EPA will inform the State if the EPA has questions about the State plan before making a decision on the approval or disapproval of the State plan.

Federal Plan. In the event approvable State plans (or local or tribal agency plans) are not submitted, EPA will develop and implement a Federal Plan for those landfills not covered by State plans or Tribal plans. The Federal Plan is expected to be a gap-filling action. When a State or Tribal plan is submitted and approved after the Federal Plan is in effect, the Federal Plan will no longer apply to MSW landfills covered by the State or Tribal plan after the State or Tribal plan becomes effective.

Related Programs. EPA reviews and comments on State development of Title V operating permits. Title V permits are not a required component of State plan submittal, nor are they required for EPA approval of the State plan.

2.2.2 State Responsibilities

Developing a State Plan. The State develops and submits a State plan that meets the criteria presented in Section 111(d), the Emissions Guidelines, and this document. This document outlines how States can meet this responsibility. In some cases, local agencies, Indian Tribes, or protectorates, rather than States, may develop plans for landfills in their jurisdictions. The same responsibilities apply.

Establishing Compliance Schedules. The State plan must develop emission limits and compliance schedules for all existing MSW landfills in the State. States should meet with MSW landfill owners and operators to develop compliance schedules to ensure a workable Section 111(d) State plan. All MSW landfills addressed by the State plan that have a design capacity equal to or greater than 2.5 million Mg and 2.5 million m³ must install emission controls

within 30 months after the landfill NMOC emission rate report shows NMOC emissions reach or exceed 50 Mg/yr. States may require compliance sooner, but not later, than specified in the Emission Guidelines, except in unusual case-by-case situations (see Section 3.11).

Submitting Progress Reports. States must report annually to the EPA on the progress of implementing the plan, including the status of meeting increments of progress and achieving final compliance. The States must also include in an annual report (as specified in Section 3.10) compliance status, enforcement actions, and updates on MSW landfill information and emission data.

Related Programs. Once EPA approves a State's Section 111(d) plan and it is effective, all applicable requirements from the plan and all the terms and conditions needed to assure compliance with the applicable requirements must be incorporated into Title V permits for those MSW landfills that are subject to Title V and the Emission Guidelines. See White Paper Number 2 in Appendix F for EPA guidance on improving the implementation of Title V operating permits programs.

Some MSW landfills are on the Superfund national priorities list. The Emission Guidelines apply to existing MSW landfills, including Superfund sites that meet these criteria. State plans should include such landfills. In addition to being subject to the requirements of the Emission Guidelines, these landfills may need to undergo remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). For consistency, the requirements of the Emission Guidelines should be considered when determining case-by-case CERCLA remedial actions at Superfund sites. This is discussed further in the preamble to the promulgated NSPS and guidelines (61 FR 9909, March 12, 1996).

2.2.3 Landfill Owners and Operators Responsibilities

Developing Compliance Schedules and Installing Controls. MSW landfill owners and operators must work with the State to develop a compliance plan and control system schedule for the State plan that are both workable and meet requirements established by the State to implement the Emission Guidelines. The schedule for achieving compliance generally must be as stringent as the Emission Guidelines, however, on a case-by-case basis, the flexibility of the Emission Guidelines allows some variations from the schedules specified in § 60.33c of Subpart Cc and § 60.757 of Subpart WWW (see section 3.11 for additional information). Since landfill owners and operators need to comply with their State's requirements, they should consult with their State for schedules specific to their landfills. An example schedule of submittals and compliance times is described below for landfill owners and operators whose States adopt the provisions of Subparts Cc and WWW.

Example submittals include a Design Capacity Report, an Annual Emission Rate Report, and a Collection and Control System Design Plan. The owner or operator would submit a Design Capacity Report within 90 days after the effective date of EPA's approval of the State plan. If the design capacity is greater than or equal to 2.5 million Mg and 2.5 million m³, the first Emission Rate Report would be submitted at the same time. The MSW landfill owner or operator would then submit a collection and control system design plan prepared by a professional engineer within 1 year after the date of the first Emission Rate Report that shows that the landfill's NMOC emission rate equals or exceeds 50 Mg/yr. Within 30 months after a landfill's NMOC emission rate report shows NMOC emissions to be equal to or greater than 50 Mg/yr, MSW landfill owners and operators would install and start up a gas collection and control system at a landfill. The landfill owner or operator would conduct an initial performance test on the control system to document compliance within 180 days after control system startup.

A brief discussion and flow chart timeline describing the responsibilities of landfill owners or operators is provided in Appendix B. The details regarding the owner or operator's responsibilities and the schedule for installing controls are discussed in Section 2 of MSW Landfills, Volume 1.

Meeting Additional Emission Guideline Requirements. Owners and operators are responsible for meeting other Emission Guidelines requirements, including an initial performance test and report to demonstrate compliance. They will also report ongoing monitoring results and keep required records to demonstrate compliance.

Related Programs. Owners and operators must apply for a Title V operating permit within a year of becoming subject to a Title V program. The authority for requiring Title V permits for existing MSW landfills is found in Section 502(a) of the CAA and is codified in 40 CFR Parts 70 and 71. Section 502(a) specifies that major sources and sources (including area sources) subject to standards or regulations under Sections 111 or 112 of the CAA (such as the Emission Guidelines and NSPS) are required to obtain Title V operating permits.

MSW landfills that are subject to a Title V permitting program under parts 70 or 71 are required to submit Title V permit application within 12 months after first becoming subject to Title V. If more than one requirement causes a landfill to become subject to Title V permitting, the 12-month time frame for submitting a Title V application will be triggered by the requirement that first causes the landfill to be subject to Title V. MSW landfills may, for example, be subject to Title V permitting as a result of being a major source under one or more of three major source definitions in Title V: (1) Section 112, (2) Section 302, or (3) Part D of Title I of the CAA. MSW landfills could also be subject to Title V permitting as a result of being subject to the Emission Guidelines.

The Emission Guidelines specify that landfills with design capacities greater than or equal to 2.5 million Mg and 2.5 million m³ are subject to Title V permitting requirements. The guidelines also state that landfills smaller than 2.5 million Mg or 2.5 million m³ are not subject to Title V unless they are a major source or are subject for some other reason (e.g., subject to another section 111 or 112 regulation). An existing MSW landfill with a design capacity equal to or greater than 2.5 million Mg and 2.5 million m³ which is not already subject to Title V, becomes subject to Title V permitting 90 days after the effective date of EPA's approval of the relevant State plan. (This allows time for submission of the design capacity report to determine if the landfill meets or exceeds the design capacity cutoff.) Permit applications would generally be due within 1 year after this date, but States can establish earlier schedules, prior to the 12-month deadline, for the submittal of permit applications. The establishment of those earlier deadlines is consistent with Section 503(c) of the CAA. Owners and operators should contact the respective permitting authorities to determine when permit applications are due for their MSW landfills. White Paper Number 2 (see Appendix F) provides guidance on improving implementation of Title V operating permits programs.

Construction or modification of a MSW landfill may trigger NSR. The NSR program requires the preconstruction review of major new sources and major modifications. The review includes a control technology review and an analysis of the air quality impacts of the new or modified source. On a case-by-case basis, some sources with Pollution Control Projects (PCP) may be excluded from NSR. Landfills that apply controls to comply with the Emission Guidelines may contact their State to determine whether they qualify for the PCP exclusion. NSR and the PCP exclusion are discussed in more detail in Appendix E.

3.0

REQUIRED ELEMENTS OF AN ACCEPTABLE STATE PLAN

This document and Appendix J contain summaries of existing information on the required elements of a State plan. States may find this summary helpful in preparing Section 111(d) State plans, and EPA will use it in reviewing the plans. A Section 111(d) State plan for MSW landfills has ten essential elements:

1. Identification of enforceable State mechanisms selected by the State for implementing the Emission Guidelines,
2. A demonstration of the State's legal authority to carry out the Section 111(d) State plan as submitted,
3. An inventory of existing MSW landfills in the State affected by the Emission Guidelines. An existing landfill may be active (currently accepting waste or having additional capacity available for waste deposition) or closed (no longer accepting waste nor having available capacity for future waste deposition),
4. An inventory of emissions from existing MSW landfills in the State,
5. Emission standards for existing MSW landfills that are "no less stringent" than those in the Emission Guidelines³,
6. A State process, as specified in § 60.33c(b) of Subpart Cc, for State review and approval of site-specific gas collection and control system design plans.
7. Compliance schedules extending no later than 30 months after the date the annual NMOC emission rate reaches or exceeds 50 Mg/yr⁵,
8. Testing, monitoring, recordkeeping, and reporting requirements,

³On a case-by-case basis, the State may provide for a less stringent standard or a longer compliance schedule if the State demonstrates to EPA that the criteria in § 60.24(f) of Subpart B are met, and the EPA approves the standard or schedule. See Section 3.11 for additional information.

9. A record of public hearing(s) on the State plan, and
10. Provision for annual State progress reports to EPA on implementation of the State plan.

Table 3-1 summarizes these elements of the State plan for MSW landfills, provides citations from Subparts B and Cc, and identifies the sections of this chapter that discuss each element.

Some components of a Section 111(d) State plan may duplicate existing State requirements and therefore will not add additional requirements. For example, most States require public notice for rulemaking consistent with 40 CFR Part 60, Subpart B. Similarly, Section 112 and Title V of the CAA require various demonstrations of legal authority. If earlier demonstrations of legal authority by the State meet the requirements of 40 CFR Part 60, Subpart B, the State will simply need to include copies of such demonstrations in the State plan submittal. Appendix J, Key Elements of an Acceptable Section 111(d) State plan, provides a detailed list of requirements for demonstrating legal authority if this initial authority has not been previously demonstrated.

3.1 Criteria for an Adequate Enforceable Mechanism

Many States that have MSW landfills covered by the guidelines are developing Section 111(d) State plans that will use State rules as the legal instrument to enforce the Emission Guidelines. However, some States may use alternative mechanisms to implement the Emission Guidelines. An essential element of a Section 111(d) State plan requires the plan to include emission standards, which 40 CFR Part 60, Subpart B § 60.20(f) defines as "a legally enforceable regulation setting forth an allowable rate of emissions into the atmosphere, or prescribing equipment specifications for control of air pollution emissions." For Section 111(d) State plans, EPA interprets the term "regulation" in Section 60.22(f) to include, in addition to a uniform State requirement or State

rule, other mechanisms that are legally enforceable under State law. For example, depending on the applicable State law, enforceable mechanisms that might be used as the vehicle for implementing the MSW landfills Emission Guidelines may include a regulatory or administrative order, a compliance order, or a State operating permit. A State may select other enforceable mechanisms provided that the State demonstrates that it has the underlying authority and demonstrates that the selected mechanism is State enforceable.

Table 3-1. Summary of Requirements for Section 111(d) State Plans^a

Required Item	Reference in 40 CFR Part 60, Subpart B or Cc	Section of this Document
Identify enforceable mechanisms selected by the State to implement the guidelines	60.24(a) of Subpart B	3.1
Show that State has legal authority to carry out plan	60.26(a) of Subpart B	3.2
An inventory of MSW landfills and an emissions inventory	60.25(a) and 60.25(c) of Subpart B	3.3 and 3.4
Allowable emission rates	60.24(b)(1), 60.24(c), and 60.24(f) of Subpart B and 60.33c of Subpart Cc	3.5
Process for State review and approval of site-specific gas collection and control system design plans	60.33c(b) of Subpart Cc	3.6
Compliance schedules and legally enforceable increments of progress for MSW landfills to achieve compliance	60.24(a) and 60.24(e)(1) of Subpart B and 60.36(c) of Subpart Cc	3.7
Test methods and procedures used for determining compliance with the emissions standards	60.24(b)(2) of Subpart B and 60.34c of Subpart Cc	3.8
Provisions for monitoring a MSW landfill's compliance status, including: 1. Legally enforceable procedures for requiring the maintenance of records and periodic reporting to the State for the determination of compliance, 2. Periodic inspections and testing, and 3. Specific testing, monitoring, recordkeeping, and reporting requirements specified by Subpart Cc.	60.25(b) of Subpart B and 60.34c and 60.35c of Subpart Cc	3.8
Certification that a public hearing was held before the State plan was adopted and list of the attendees at the hearing and their affiliation, with a summary of their presentations and handouts	60.23(f)(1) and (2) of Subpart B	3.9
State progress reports	60.25(f) of Subpart B	3.10

^aSee text of Section 3 and Appendix J of this document for additional discussion of the required elements of a State plan.

All applicable requirements on MSW landfills and terms and conditions needed to implement and enforce these applicable requirements must remain continually in force throughout the time the landfill is subject to the State plan even if the enforceable mechanism, e.g., permit, expires.

If the State relies on a mechanism that is not a State rule to implement the Emission Guidelines, such as a regulatory order, the State must document in the State plan how the selected mechanism meets the emission standards for the designated pollutant (MSW landfill emissions, measured as NMOC) and attach a copy of the enforceable mechanism. A State operating permit can be used as the enforceable mechanism in a State plan, as long as the requirements contained in the permit are binding on the owner or operator as a matter of State law. When EPA approves the State plan, the requirements in the permit would then become federally enforceable. If a State rule is used, only citations of the overall rule and copies of the sections pertaining to MSW landfills are required. The State does not have to submit a copy of the entire rule. The State may submit a Section 111(d) State plan that relies on the requirements in the SIP to meet the Section 111(d) emission standard for NMOC emissions, where they are found to be adequate. If the State relies on existing or revised SIP emission limits to implement the Section 111(d) MSW landfill emission standards, the State must submit the Section 111(d) State plan citing the SIP and the date when it became effective and document how the SIP assures that the requirements of Section 111(d) are met. In all cases the mechanism(s) must be in place and effective by the date the State plan is submitted.

The EPA emphasizes that the determination of whether a particular mechanism may be used to enforce the Emission Guidelines in a particular State is a question of State law; the State law must give the State the requisite authority to enforce the emission limit using the legal mechanism identified by the State. Thus, a mechanism (for example, a regulatory order) that is

approvable for one State under its State law might not be approvable if selected by another State under the law in that State.

After a State incorporates a State-enforceable requirement into the State plan, and the plan has been approved by EPA and is effective, the State requirement, if it is to be codified, becomes federally enforceable.

3.2 Demonstration of Legal Authority

The Section 111(d) State plan must demonstrate that the State has the legal authority under current State law to adopt and implement the emission standards and compliance schedules in the Section 111(d) State plan. The legal authority must support the legal mechanism selected by the State to implement the emission limits for MSW landfills. The legal authority must be available to the State at the time the State submits its Section 111(d) State plan to EPA [40 CFR Part 60, Subpart B, § 60.26(c)]. States must submit with the Section 111(d) State plan copies of the laws or regulations that demonstrate the State's legal authority, unless: (1) such laws or regulations were approved when previously submitted under either 40 CFR Part 60, Subpart B or other sections of the CAA, and (2) the State can demonstrate that such previously submitted laws or regulations are applicable to the pollutants⁴ for which the plan is submitted [§ 60.26(b)].

A State may use existing demonstrations of legal authority to meet the requirements of Subpart B. The legislative structure of the State will determine which existing authorities the State can use to implement the Section 111(d) requirements. This implementation guidance provides the minimum requirements of Section 111(d) pertaining to MSW landfills, and

⁴For MSW landfills, the regulated pollutant is MSW landfill emissions, measured as NMOC.

leaves the State flexibility to implement the requirements as long as provisions are enforceable under State law.

A State must include in its demonstration of existing legal authority a showing that it has the authority to:

1. Adopt emission standards and enforceable conditions (see Section 3.1) as well as compliance schedules applicable to the designated facilities and pollutant for which the Section 111(d) State plan is submitted;
2. Enforce the relevant laws, regulations, standards and compliance schedules referenced in Section 111(d);
3. Obtain information necessary to determine compliance;
4. Require recordkeeping, make inspections, and conduct tests;
5. Require the use of monitors and require emission reports of MSW landfill owners or operators; and
6. Make emission data available to the public.

Demonstrations of legal authority can take several forms. States that use a legal mechanism other than rulemaking to implement the Emission Guidelines should submit legal documentation, preferably an opinion by the State's Attorney General that the State possesses the adequate authority to implement and enforce the Section 111(d) State plan using that legal mechanism.

A State governmental agency other than the State air pollution control agency may be assigned responsibility for carrying out a portion of a Section 111(d) State plan, provided that the State demonstrates that the State governmental agency has adequate authority [§ 60.26(e) of Subpart B]. The State may authorize a local agency to implement a portion of the Section 111(d)

State plan provided that the local agency demonstrates that it has adequate legal authority to implement that portion of the plan and the State is not relieved of responsibility [§ 60.26(e)].

3.3 Source Inventory

A complete source inventory of existing MSW landfills in the State that are regulated by the Emission Guidelines must be submitted as part of the Section 111(d) State plan [§ 60.25(a) of Subpart B]. An "existing" landfill is a landfill that commenced construction, modification, or reconstruction before May 30, 1991 and that has accepted waste at any time since November 8, 1987 or has additional capacity for future waste deposition. (Landfills that commenced construction, modification, or reconstruction since then are considered "new" and are subject to the NSPS instead of the Emission Guidelines.) "Municipal Solid Waste Landfill New Source Performance Standards and Emission Guidelines — Questions and Answers", posted on the TTN Web, contains additional information on applicability.

The source inventory should include existing MSW landfills with design capacities both above and below the 2.5 million Mg/yr or 2.5 million m³/yr design capacity cutoff. Landfills below this capacity are not required to apply controls under the Emission Guidelines, but they are required to submit a design capacity report and supporting information to show that they are below the cutoff.

State air agencies may be able to obtain information on these landfills from their State solid waste agency counterparts. The 1984 Hazardous and Solid Waste Amendments to RCRA required States to establish a permit program or other system of prior approval to ensure that facilities receiving household hazardous waste or small quantity generator hazardous waste are in compliance with 40 CFR Part 257. This permit program was to be established

by November 8, 1987. This permit program is a resource for States to use in locating landfills that are subject to the Emission Guidelines. Another source of information may be county and municipal governments.

One special consideration for identifying all of the existing MSW landfills is that some may be closed. Identifying and locating owners or operators of closed MSW landfills may be difficult; however, only landfills that have accepted MSW since November 8, 1987 or have additional capacity for future waste deposition are subject to the Emission Guidelines. Therefore, these landfills may have RCRA permits. Once a closed MSW landfill has been identified, the State will need to identify and locate the owner, operator, or responsible party.

3.4 Emission Inventory

An emission inventory based on the MSW landfills source inventory required by § 60.25(a) of Subpart B, must be included in the Section 111(d) State plan. The inventory must present estimates of the pollutant regulated by the Emission Guidelines, which is NMOC. Emission estimates should be reported in Mg/yr NMOC. The emissions inventory must be made available to the general public and presented with the applicable emission standards.

In view of the limited requirements on landfills below the 2.5 million Mg or 2.5 million m³ cutoff, the EPA will allow States, in limited circumstances, to submit emission inventories as part of State plans without developing emissions data where the development of such data would be unreasonable or impractical. For example, it may be unreasonable or impractical for an MSW landfill below the size cutoff to estimate NMOC emissions if the landfill is closed and there are no records of waste in place. A memo entitled, "Emission Inventory for MSWLF State plans" is posted on the TTN Web (<http://www.epa.gov/ttn/oarpg/t3pgm.html>) and discusses this policy in detail.

The memo is also included in this document as Appendix K. The allowance for exclusion of NMOC emission from certain landfills below 2.5 million Mg or 2.5 million m³ does not affect the requirement for States to submit an inventory of existing MSW landfills with the State plans. The memo provides details on situations where obtaining emissions data may be unreasonable or impractical.

3.4.1 Emission Estimation Procedures

Two different methods can be used to estimate emissions from landfills. To estimate emissions for State inventories, the procedures in AP-42, "Compilation of Air Pollutant Emission Factors"⁵ are the preferred method unless site-specific data is available. To determine applicability of or compliance with the MSW Emission Guidelines, the owner or operator must use the tiered emission estimation procedure in § 60.754 of Subpart WWW or another method if it has been approved by the EPA Administrator as provided in § 60.752(b)(2)(i)(B).

The equations in Subpart WWW are the same as the AP-42 equations. However, the values of the variables used in the equations are different for the two methods. The variable values specified in Subpart WWW are purposefully conservative to protect human health, to encompass a wide range of landfills, and to encourage the use of site-specific data. The variable values in AP-42 would more accurately reflect current conditions at a landfill and thus yield more accurate emissions for the purposes of the emission inventory.

⁵AP-42 is the common name for the EPA document entitled "Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources," Fifth Edition, January 1995, available from GPO or from the CHIEF TTN Website (<http://www.epa.gov/ttn/chief>). The landfill emission factors section was updated in November 1998.

AP-42 Procedures. Emission estimation procedures for MSW landfills from AP-42, the "Compilation of Air Pollutant Emission Factors" are presented in Appendix D. These procedures, from Section 2.4, Municipal Solid Waste Landfills have been updated to reflect changes to the Section which were published in September 1997. AP-42 includes equations that estimate emissions as a function of three variables: the NMOC concentration in landfill gas (C_{NMOC}); the methane generation rate constant (k); and the refuse methane generation potential (L_o). Although site-specific testing is not required for developing the emission inventory, it is preferable to use site-specific measured data for the variables when it is available because it would better reflect the conditions at a particular landfill. If site-specific data is not available, default values for these variables, which are found in AP-42, can be used. The default values for these variables are designed to provide typical, or average, estimates of landfill emissions and are appropriate for use in State emission inventories. However, it should be stressed that the AP-42 default values should NOT be used to determine applicability of or compliance with the MSW landfills Emission Guidelines.

Subpart WWW Procedures. Under the Emission Guidelines, the owner or operator must use the tiered emission estimation procedure in § 60.754 of Subpart WWW to determine whether the annual emission rate equals or exceeds the 50 Mg/yr NMOC cutoff and whether the landfill must be controlled. The owner or operator must use the equations and Tier 1 default values provided in the NSPS and the Emission Guidelines to determine NMOC emissions or develop site-specific values using the Tier 2 or 3 procedures in § 60.754. If a MSW landfill equals or exceeds the 50 Mg/yr cutoff using Tier 1 procedures, they can apply controls or collect site-specific data and refine the emission estimates using Tier 2 or 3 procedures.

Computer Model for Calculating Emissions. A computer model is available to calculate landfill emissions. It uses equations that are the same as

those in the Emission Guidelines and AP-42. The model contains default values from AP-42 that can be used to estimate emissions for inventories and permitting purposes. It also contains default values from the NSPS and Emission Guidelines that can be used to determine applicability of the Emission Guidelines. Appendix D provides information on the computer model and how to obtain it.

3.4.2 Annual Emission Reporting

In addition to the initial emission inventory, States must submit annual progress reports on implementation of the Emission Guidelines. These annual progress reports, described in Section 3.10, must include updated NMOC emission rate data (per § 60.25(a), (e), and (f) of Subpart B). To avoid duplication, these updated emission estimates must be included in the annual State Implementation Plan (SIP) reports required by § 51.321. These annual reports must update the emission inventory for those sources whose emissions have changed more than 5 percent from the most recently submitted emission data (as specified in §§ 51.321 through 51.323). If emissions from an MSW landfill have not changed more than 5 percent, then the State must update the year of record of the previously reported emission data. This emission data must be reported to the Aerometric Information Retrieval System Facility Subsystem (AFS) as specified in 40 CFR Part 60, Appendix D. AFS is a repository of emission information for stationary sources that has now superseded the National Emissions Data System (NEDS) described in 40 CFR Part 60, Appendix D. A discussion of other types of information that must be included in the annual progress reports is contained in Section 3.10.

3.5 Emission Standards

3.5.1 Allowable Emission Rates and Control Requirements

The State plan must include emission standards that prescribe allowable emission rates for existing MSW landfills. Subpart B [§ 60.24(c)] specifies that emission standards should be "no less stringent than" the Subpart Cc Emission Guidelines, except as provided under § 60.24(f), discussed in Section 3.11.

The Emission Guidelines require control of emissions from existing MSW landfills (that is, MSW landfills that commenced construction, modification, or reconstruction before May 30, 1991 and have not been modified or reconstructed since May 30, 1991 and have accepted waste at any time since November 8, 1987 or have additional capacity for future waste deposition) that:

- have a design capacity greater than or equal to 2.5 million Mg and 2.5 million m³; and
- have an NMOC emission rate of 50 Mg/year or more.

The level of control required by the Emission Guidelines for these landfills includes a collection and control system. The collection system must meet certain design criteria. The control system must either:

- achieve 98 percent NMOC reduction (by weight, determined by the performance test procedures specified in the rule); or
- be an enclosed combustion device achieving an outlet NMOC concentration of less than 20 ppmv (as hexane, dry basis at 3 percent oxygen); or
- be an open flare meeting the design and operating specifications of § 60.18 of 40 CFR Part 60 Subpart A.

State plans must generally require this same level of control.

Section 60.24(b)(1) of Subpart B specifies that Section 111(d) State plans should include emission rates, or if these are impractical, State plans may contain equipment specifications. The Emission Guidelines for existing MSW landfills provide a combination of emission limits and design criteria. Emission limits (for example, 98 percent reduction) are practical for most control devices and are included in the Emission Guidelines. However, it is not practical to establish numerical limits or measure performance for landfill gas collection systems and flares, so design criteria are provided for gas collection systems and flares. Thus, a State plan that allows design criteria for gas collection systems and flares similar to the Emission Guidelines will meet the requirements of § 60.24(b)(1).

Section 60.24(b)(1) further specifies that if emission standards prescribing equipment specifications are established, the State plan must set forth to the degree possible the emission reductions achievable by implementation of such specifications. The State plan may permit compliance by the use of equipment determined by the State to be equivalent to that prescribed. The Subpart Cc Emission Guidelines contain design criteria rather than prescriptive equipment specifications. They also provide for submission of alternative collection system design plans for systems that do not meet the design criteria for active collection systems and they provide for approval of alternative collection systems and control devices. Therefore, State plans that allow alternative equipment that meet the design criteria for active and passive collection systems specified in the Emission Guidelines will fulfill the intent of § 60.24(b)(1). Section 60.24(f) allows the State in certain case-by-case situations to provide for a less stringent standard (see Section 3.11).

3.6 Process for Review of Design Plans

The Emissions Guidelines [§ 60.33c(b) of Subpart Cc] require State plans to include a process for State review and approval of site-specific design

plans for required gas collection and control systems. If MSW landfill emissions equal or exceed 50 Mg/yr, the landfill owner or operator must submit a site-specific design plan within 1 year. The plan must be prepared by a professional engineer and must meet the design criteria in § 60.752(b)(2)(ii) of Subpart WWW. The plan must also conform to design specifications for active collection systems in § 60.759 of Subpart WWW or include a demonstration of the sufficiency of alternative provisions [see § 60.752(b)(2) of Subpart WWW]. Further information about the design criteria and examples of alternative designs are contained in "Municipal Solid Waste Landfills, Volume 1: Summary of the Requirements for the New Source Performance Standards and Emission Guidelines for Municipal Solid Waste Landfills" (EPA-453/R-96-004).

The process that the State will use to review the gas collection and control system design plan must be described in the State plan. The description of the process in the State plan could include information on review responsibilities, schedules, and notification procedures such as communication of reasons for disapproval. States are encouraged to review the design plans expeditiously so that there is sufficient time after approval for the landfills to install controls prior to the compliance date.

3.7 Compliance Schedules

To comply with the emission limits contained in the Section 111(d) State plan, existing MSW landfills may need to install emission controls. The State plan must contain schedules for controlling emissions from these landfills. The elements included in a compliance schedule are listed in Table 3-2.

3.7.1 Compliance Times

The compliance schedules for MSW landfills are developed by the State air pollution control agency considering input from the public and input

from the MSW landfills owners and operators. The Emission Guidelines place certain restrictions on these schedules.

The Emission Guidelines [§ 60.36(c)] specify that owners or operators must accomplish specific tasks within 30 months after the Annual Emission Rate Report first shows that emissions equal or exceed 50 Mg/yr of NMOC. These tasks include planning, awarding of contracts, installing MSW landfill air emission collection and control equipment capable of meeting the Emission Guidelines, and complying with the Emission Guidelines.

**Table 3-2. Schedule for MSW Landfill Compliance with
the Emission Guidelines**

State plan submittal to EPA	December 12, 1996
EPA approval of State plan	April 12, 1997
Submit Design Capacity Report. Also submit first Annual Emission Rate Report if design capacity is greater than or equal to 2.5 million Mg and 2.5 million m ³	A set date in State plan. For consistency with Subparts Cc and WWW, 90 days after the effective date of the EPA's approval of the State plan.
If not in compliance by this date, need enforceable increments of progress for MSW landfills	April 12, 1998
Submit a final control plan. (The final control plan may be interpreted to be the same as the site-specific collection and control system design plan required by the Emission Guidelines.)	A set date in State plan. For consistency with Subparts Cc and WWW, the collection and control system design plan must be submitted within 1 year after the date of the landfill's submittal of the first Annual Emission Rate Report that shows that NMOC emissions first equal or exceed 50 Mg/yr of NMOC
Award contracts for gas collection and control system	A set date in State plan
Initiate construction or installation of gas collection and control system	A set date in State plan
Complete construction and installation of gas collection and control system	A set date in State plan. For consistency with Subpart Cc, installation of a collection and control system capable of achieving compliance with the Emission Guidelines must be accomplished within 30 months after a landfill's annual emission rate report first shows that emissions equal or exceed 50 Mg/yr of NMOC. ^a
Final compliance date for MSW landfill	A set date in State plan. For consistency with Subpart Cc, the collection and control system must be operating in compliance with the Emission Guidelines within 30 months after a landfill's annual emission rate report first shows that emissions equal or exceed 50 Mg/yr of NMOC. ^a
Initial performance test for MSW landfill control system	As scheduled in State plan and for consistency with the NSPS general provisions, no later than 180 days after installation of the collection and control system
Reports of periodic monitoring results	Annually after compliance date

^aOn a case-by-case basis, the State may provide for a longer compliance schedule only if the State demonstrates in the Section 111(d) State plan that the criteria in § 60.24(f) of Subpart B are met, and the EPA approves the compliance schedule.

States can require landfills to comply sooner than the dates specified in the Emission Guidelines. In fact, § 60.24(c) specifies that State plans must require compliance as expeditiously as practicable, but no later than the compliance times suggested in the Emission Guidelines. The EPA believes that many landfills will need the compliance time specified in the Emission Guidelines to design and install collection and control systems. A shorter compliance time may be specified if a State determines more rapid compliance is reasonable for certain landfills, or groups of landfills. States may provide for a longer compliance schedule on a case-by-case basis (see Section 3.11.3).

3.7.2 Increments of Progress

Compliance schedules for MSW landfills with compliance dates that extend more than 1 year beyond the date of State plan approval must include legally enforceable increments of progress towards compliance as required by § 60.24(e) of Subpart B. Because the Emission Guidelines allow 30 months after the first Annual Emission Rate Report shows NMOC emissions equal or exceed 50 Mg/yr for compliance, State plans that are based on the Emission Guidelines will need to include increments of progress. Each increment of progress in § 60.21(h) of Subpart B must have an enforceable compliance date in the Section 111(d) State plan that may include such additional increments of progress as may be necessary for close and effective supervision of progress toward final compliance.

The minimum five increments of progress required by § 60.21(h) of Subpart B for each MSW landfill within a State are as follows:

1. Submitting a final control plan. The control plan may be interpreted to be the same as the site-specific collection and control system design plan required by the Emission Guidelines (see Section 3.6). If the State plan uses the schedule in Subparts Cc and WWW, an Annual Emission Rate Report is due 90 days after the effective date of EPA's

approval of the State plan and the control plan is due within 1 year of the date of the first Annual Emission Report showing that the NMOC emission rate is 50 Mg/yr or greater. In this example, the date of the increment of progress is tied to the date of the annual emission report;

2. Awarding contracts for construction of collection and control systems or orders for purchase of components;
3. Initiating on-site construction or installation of the collection and control systems;
4. Completing on-site construction or installation of collection and control systems; and
5. Final compliance.

All five increments of progress for MSW landfills can be fixed calendar dates or floating dates (such as the example shown for increment No. 1). The floating dates can be tied to the effective date of EPA's approval of the State plan or the date the Annual Emission Rate Report shows that NMOC emissions equal or exceed 50 Mg/yr.

As previously discussed, Subpart Cc requires the fourth increment, the installation of collection and control systems capable of meeting the Emission Guidelines to be completed within 30 months after the date the first Annual NMOC Emission Rate Report shows NMOC emissions equal or exceed 50 Mg/yr. The landfill must also be in compliance (increment 5) at this time.

EPA strongly recommends that a date for the initial official performance test of the control device be included in the Section 111(d) State plan. Following installation of the collection and control system, a performance test must be completed within 180 days. In addition, the Section 111 general provisions (40 CFR 60 Subpart A) require a 30-day notice before a performance test. The report of the performance test results must be submitted within 60 days after the test is conducted. These test results are for demonstrating whether or

not the MSW landfill is in compliance with the emission standards after the controls are installed. This performance test timing is consistent with other EPA air regulations for existing sources, such as the NESHAP general provisions (40 CFR 63 Subpart A). Note that the "initial" official performance test denoted above does not mean the first ever test but rather the first official test for determining compliance; that is, EPA would expect MSW landfill owners and operators to conduct preliminary tests for their own use (similar to other industry owners and operators who typically conduct preliminary tests to tune equipment) at least two to three months before the scheduled initial official performance test. Preliminary tests enable MSW landfill owners to make any necessary "shakedown" adjustments and retest before the initial official performance test. EPA does not have to be notified of the unofficial tests nor do they have to be on site for the unofficial tests.

The Section 111(d) State plan may include one set of increments with compliance dates applicable to all MSW landfills within the State or it may vary the compliance dates from one MSW landfill to another to address specific issues relevant to individual landfills. In all cases, the enforceable increments of progress must be arranged chronologically, and the compliance dates must be set to ensure full compliance with the applicable requirements as expeditiously as practicable [§ 60.24(c) of Subpart B]. For example, a State plan that requires a MSW landfill to submit a final control plan no later than 2 years after the effective date of EPA's approval of the State plan will likely be disapproved because the increment is too close to the end of the compliance window, does not appear to ensure expeditious progress, and thus jeopardizes timely compliance. Although there may be MSW landfill-specific reasons for other schedules, EPA would expect the control plan to be submitted within 15 months of the effective date of EPA's approval of the State plan (90 days for the first Annual Emission Rate Report plus 1 year for the control plan if NMOC emissions equal or exceed 50 Mg/yr). EPA would expect contracts to be awarded within about 20 months for landfills that must comply within

33 months (90 days for the Annual Emission Rate Report plus 30 months for compliance, if NMOC emissions equal or exceed 50 Mg/yr).

3.8 Testing, Monitoring, Recordkeeping, and Reporting

The Section 111(d) State plan must include requirements for the testing, monitoring, recordkeeping, and reporting provisions from the Emission Guidelines.

3.8.1 Requirements of the Emission Guidelines

The testing and monitoring provisions are specified in the MSW landfills Emission Guidelines (§ 60.34c of Subpart Cc). They apply to landfills with design capacities greater than or equal to 2.5 million Mg and 2.5 million m³, and include, in particular:

- calculation of the MSW landfill NMOC emission rate using the procedures in § 60.754 of Subpart WWW to determine whether the annual emission rate equals or exceeds the emission rate cutoff of 50 Mg/yr;
- the operational standards in § 60.753 of Subpart WWW;
- the compliance provisions in § 60.755 of Subpart WWW; and
- the monitoring provisions in § 60.756 of Subpart WWW.

For landfills that emit 50 Mg/yr or more of NMOC, a performance test is required to demonstrate that the control device achieves the specified emission limits. The operational standards, compliance, and monitoring provisions require periodic monitoring of surface methane concentration, wellhead temperature, and nitrogen or oxygen level. Details on the compliance and monitoring requirements are contained in Subparts Cc and WWW (Appendix I). The document, "Municipal Solid Waste Landfills, Volume 1: Summary of the Requirements for the New Source Performance Standards and Emission

Guidelines for Municipal Solid Waste Landfills" (EPA-453/R-96-004) further explains these requirements.

The recordkeeping and reporting provisions are specified in the MSW landfills Emission Guidelines (§ 60.25c of Subpart Cc). For approval, the State plan must include:

- the reporting provisions in § 60.757 of Subpart WWW; and
- the recordkeeping provisions in § 60.758 of Subpart WWW.

The MSW landfill owner or operator must maintain records of the design capacity, performance test, and monitoring data for five years. Certain records on collection and control system design and the initial performance test must be kept for the life of the control equipment. The MSW landfill owner or operator must submit an initial design capacity report. If the design capacity is greater than or equal to 2.5 million Mg and 2.5 million m³, the landfill owner or operator must submit Annual NMOC Emission Rate Reports.⁶ Both the design capacity report and the first Annual Emission Rate Report are due within 90 days of the effective date of EPA's approval of the State plan. If NMOC emissions are 50 Mg/yr or more, a collection and control system design plan must be submitted. An initial test report and annual report of testing and monitoring results are required after the collection and control system is installed. Closure reports are required when the landfill closes. These recordkeeping and reporting requirements are described in more detail in the "Municipal Solid Waste Landfills, Volume 1: Summary of the Requirements for the New Source Performance Standards and Emission Guidelines for Municipal Solid Waste

⁶If estimated NMOC emissions are less than 50 Mg/yr for each of the next 5 consecutive years, the owner or operator may elect to submit a 5-year emission rate report instead of Annual Emission Rate Reports per § 60.757(b) of Subpart WWW.

Landfills" (EPA-453/R-96-004). The regulatory text of these requirements are contained in Subpart Cc and Subpart WWW (Appendix I).

A State plan that incorporates the testing, monitoring, reporting, and recordkeeping requirements specified in Subpart Cc will be consistent with the State plan requirements in Subpart B. Under § 60.25(b) of Subpart B, State plan requirements for monitoring compliance must include the following:

- legally enforceable requirements for owners and operators to keep records of the nature and amount of emissions and any other information that may be necessary to enable the State to judge compliance. This information must be reported periodically to the State (Subpart Cc requires such records and reports);
- legally enforceable requirements that provide for periodic inspection and testing (Subpart Cc requires periodic inspection and monitoring); and
- provisions for making reports of emission data, correlated with the emission standards that apply, available to the general public. This would include the Annual Emission Rate Reports, in Mg/yr, that must be submitted for uncontrolled landfills. The reported annual emission rate would be compared to the 50 Mg/yr threshold to determine whether controls must be installed.⁷

3.8.2 Provisions for Requirements Other Than Those in the Emission Guidelines

Requirements in State plans for compliance demonstration, monitoring, recordkeeping, and reporting must be at least as stringent as the

⁷For landfills that require control, the emission standards are expressed in terms of design criteria and operational requirements for the gas collection system and a percent reduction for the control device, instead of emission rate limits. Therefore, the Subpart B requirement to "correlate" the annual emission inventory information (in Mg/yr, discussed in Section 3.4) with the landfill emission standards is not relevant for controlled landfills. The performance testing, monitoring, and recordkeeping procedures in the Emission Guidelines are appropriate for determining compliance with the percent reduction limit and collection system requirements.

Emission Guidelines. In developing the Emission Guidelines, EPA sought to develop a system that would provide all the information necessary to determine compliance, yet would not be burdensome to landfills or generate unnecessary paperwork. However, a State can choose to require more frequent reports or additional information. Test methods and procedures for determining compliance that are different than those specified in 40 CFR Part 60, Appendix A may be specified in the plan as allowed in § 60.24(b) of Subpart B. These alternatives must be shown to be "equivalent methods," or acceptable "alternative methods" as defined in § 60.2 of Subpart A.

3.9 Public Hearings

Public participation, under the provisions of the CAA, is an important right and responsibility of citizens in the State process of developing, adopting, and implementing Section 111(d) State plans. As with State Implementation Plans (SIPs) for criteria pollutants, EPA regulations in 40 CFR Part 60, Subpart B, make it clear that citizen input on Section 111(d) State plans is encouraged in order to help define appropriate emission standards and compliance schedules. Under Subpart B, some minimum public participation requirements are as follows:

1. Reasonable notice of opportunity for one or more public hearing(s) at least 30 days before the hearing.
2. One or more public hearing(s) on the Section 111(d) State plan (or revision) conducted at location(s) within the State, if requested.
3. Date, time, and place of hearing(s) prominently advertised in each region affected.
4. Availability of draft Section 111(d) State plan for public inspection in at least one location in each region to which it will apply.
5. Notice of hearing provided to:

- a. EPA Regional Administrator
 - b. Local affected agencies
 - c. Other States affected
- 6. Certification that the public hearing, if held, was conducted in accordance with Subpart B and State procedures.
- 7. Hearing records must be retained for a minimum of two years. These records must include the list of commenters, their affiliation, summary of each presentation and/or comments submitted, and the State's responses to those comments.

3.10 State Progress Reports to EPA

States are required under § 60.25(e) and (f) to submit to EPA annual reports on the progress of plan enforcement. These reports must be incorporated into the reports required by 40 CFR § 51.321. Inclusion in this § 51.321 report is intended to avoid duplicative reporting. The first progress report is due 1 year after plan approval or promulgation of a plan by EPA. Section 60.25(f) applies to all regulated sources; however, MSW landfills and emissions from MSW landfills are different from typical sources and emissions. The following list has been modified to reflect how the progress report items specifically apply to MSW landfills.

- 1. Enforcement actions. The State must report enforcement actions initiated against a MSW landfill during the reporting period. For example, the State must report any enforcement actions taken in response to a compliance schedule or emission limit violation.
- 2. Increments of progress. The State must report achievement of increments of progress made by landfills such as submittal of a final control plan (design plan) or initiation of on-site construction of the collection and control system.
- 3. Identification of MSW landfills that have closed and ceased to operate a collection and control system. Landfills that have ceased to accept MSW will continue to emit NMOC. Emission Guidelines require the control system to be operated even after the landfill has closed. Control systems may be

removed after: a closure report has been submitted, the collection and control system has been operated a minimum of 15 years, and NMOC emissions are less than 50 Mg/yr. The State progress report should identify closed MSW landfills that have met these criteria and have ceased to operate their control systems.

4. Emission inventory for MSW landfills that were not in operation or were not identified at the time of plan development. Except for MSW landfills that were not identified in the State plan and were later determined to be affected by the Emission Guidelines, most existing MSW landfills would have been in operation at the time of plan development.
5. Updated information or emission data. The State must report updated landfill information such as any increases in design capacity and newly identified existing MSW landfills that were not included in the State plan. In addition, emissions data must be reported for existing MSW landfills, if the annual emission rate from the landfill has changed by more than 5 percent from the previous year, as discussed in Section 3.4.2. Emissions must also be reported if the annual emission rate report submitted by a MSW landfill shows that emissions have increased to 50 Mg/yr or more, such that the landfill now requires control.
6. Test reports and concurrent data. Subpart B requires that the initial performance test and concurrent process data be submitted with an annual report. However, since MSW landfill emissions are not generated by a manufacturing process, concurrent process data are not applicable; therefore, control device operating conditions should be reported with the performance test.

States may want to include additional information on periodic inspection and testing activities, emission and parameter exceedances, QA/QC, outreach activities, Title V or other permit condition compliance status, and compliance assistance activities. Some States and EPA regional offices have developed more specific or tailored reporting and recordkeeping procedures via Memoranda of Agreements, Program Specific Guidance for Section 105 Grants, and the Timely and Appropriateness Guidance. For example, some EPA offices

prefer that the States retain the performance test reports until EPA requests review as part of a compliance determination or other action. The State and EPA will continue to have discretion on the format of the annual reports. States should work with their EPA regional office to determine appropriate reporting procedures for MSW landfill State plans.

3.11 State Flexibility

States may request an extension to the submittal date of their State plans or prescribe less stringent emission standards or longer compliance schedules than the Emission Guidelines. These case-by-case situations are described below.

3.11.1 Submittal of State Plan

Extension of Submittal of State Plan. Section 60.27(a) allows the EPA Administrator to extend the period of submission of plans or revised plans if the Administrator determines this to be necessary. If a State requests an extension, the State must demonstrate why such an extension is necessary.

3.11.2 Emission Standards

States may prescribe more stringent emission standards than the Emission Guidelines. States may prescribe less stringent emission standards only in unique situations. These case-by-case less stringent standards must be justified in the State plan and are subject to EPA approval. The provisions for allowing less stringent emission standards are provided in § 60.24(f) of Subpart B. This paragraph States that on a case-by-case basis for particular designated facilities, or classes of facilities, States may provide for the application of less stringent emission standards if certain criteria are met. These criteria are: (1) unreasonable cost of control resulting from age, location, or

design, (2) physical impossibility of installing necessary control equipment, or (3) other factors specific to the MSW landfills that make application of a less stringent standard significantly more reasonable. The State is responsible for demonstrating the reason for any less stringent emission standards in its State plan.

The MSW landfill Emission Guidelines are a health-based Section 111(d) emission standard rather than a welfare-based standard as have been some previous Section 111(d) standards. As a health-based standard, greater consideration should be given to the health impacts of a less stringent emission standard during the development and evaluation of State standards for MSW landfills. Any less stringent emission standards should be carefully reviewed to assure that public health will not be adversely affected by MSW landfill emissions.

Public comments on the landfill NSPS and Emission Guidelines contain examples of situations where a State might want to consider a less stringent standard. These public comments are summarized in the background information document, "Air Emissions from Municipal Solid Waste Landfills — Background Information for Final Standards and Guidelines," (EPA-453/R-94-021). For example, an existing MSW landfill might already have installed a 95 percent efficient combustion control device prior to proposal of the Emission Guidelines. Engineering analysis might show that the existing control device cannot be upgraded to achieve 98 percent. The State might judge the costs of replacing the control device to be unreasonable in light of the 3 percent additional reduction that would be achieved. Another example that might warrant special consideration would be a landfill that closed on or after November 8, 1987, but before the May 1991 proposal date and that has no means of obtaining funding for installation of a control system. A third situation would be a landfill that accepts very little MSW and, because of the site-specific waste mixture and landfill design characteristics, experiences unreasonable costs

relative to typical landfills. It should be stressed that the State must demonstrate that one or more of the criteria in § 60.24(f) are met and gain EPA approval in order to apply a less stringent standard.

3.11.3 Compliance Schedules

States have the option of allowing longer compliance times for particular MSW landfills or classes of MSW landfills on a case-by-case basis if certain criteria listed in § 60.24(f) are met. These criteria are the same as the criteria for a less stringent standard. These criteria allow States discretion in regulating individual MSW landfills. In the plan, the State must demonstrate that one of these criteria apply when a less stringent compliance schedule is specified for a MSW landfill or class of MSW landfills. EPA approval is required for less stringent control system schedules. As mentioned in Section 3.11.2, the MSW landfill Emission Guidelines are a health-based standard rather than a welfare-based standard. As a health-based standard, greater consideration should be given to the health impacts of any less stringent compliance schedule during the development and evaluation of State plans for MSW landfills.

4.0 ANSWERS TO SOME GENERAL QUESTIONS ABOUT SECTION 111(D) STATE PLANS

This section contains answers to some frequently asked questions about development and submittal of Section 111(d) State plans. Additional questions and answers are contained in the document "Municipal Solid Waste Landfill New Source Performance Standards and Emission Guidelines—Questions and Answers," available on the TTN Web.

Question No. 1: If a State uses a SIP regulation as a basis for the enforceable mechanism in a State plan, does the State need to demonstrate legal authority?

Answer: A State can select from a range of legal mechanisms as described in this summary document provided that the State can show it has adequate legal authority. A demonstration of legal authority is required in all cases except for State rules. If a SIP rule is used, citations, rather than copies of actual State legal authority are adequate. The State must show that the SIP requirements are adequate to meet the NMOC control requirements in the Emission Guidelines. [See § 60.26(b) of Subpart B].

Question No. 2: Do emission limits in the State plan need to be the same as the emission limits in the Subpart Cc Emission Guidelines?

Answer: The emission limits in the State plan must generally be "no less stringent than" the Emission Guidelines, and EPA recommends that the limits be presented in the same regulatory format as the Emission Guidelines (for example, a percent reduction or concentration limits for the control device and design criteria for the gas collection system). If a regulatory format other than that used in the Emission Guidelines is used in a State plan, then the State must show how the format correlates to the format in the Emission Guidelines and demonstrate that it is no less stringent than the Emission Guidelines. In limited case-by-case situations, a State plan may request approval of less stringent emission limits. As described in Section 3.11.2, the State plan would need to

demonstrate that the criteria in § 60.24(f) of Subpart B are met and EPA approval would be required.

Question No. 3: Does the State plan need to address each MSW landfill located in the State in the inventory?

Answer: Only existing MSW landfills that are subject to the Emission Guidelines must be addressed by the State plan and included in the inventory.

Question No. 4: Can a State plan identify only air pollution control equipment to be installed or must it include emission limits?

Answer: A State plan must include emission standards that are no less stringent than the Emission Guidelines, and they must apply them to each MSW landfill that meets the applicability criteria in the Emission Guidelines (see Section 3.5). The Emission Guidelines include percent reduction and outlet concentration standards for control devices. They also include design criteria for gas collection systems and flares, because it was not feasible to establish a numerical limit for these controls. Prescriptive equipment specifications are not required, and alone are unacceptable.

Question No. 5: Do reporting requirements in State plans apply to MSW landfill operators or just State agencies?

Answer: There are requirements that apply to MSW landfill operators and requirements that apply to State agencies. The State has responsibilities to develop the State plan and to report implementation progress to EPA. The MSW landfill owner or operator must show expeditious progress on achieving compliance by the dates set and then show continuing compliance with the standard by a performance test and periodic monitoring, recordkeeping, and reporting. Additional information on testing, monitoring, recordkeeping, and reporting requirements that apply to MSW landfill owners or operators are contained in MSW Landfills, Volume 1,

(EPA-453/R-96-004), and in Subparts Cc and WWW (see Appendix I).

Question No. 6: Are fixed calendar dates required in increments of progress?

Answer: Either calendar dates or floating dates can be used for these increments of progress. There are five mandatory increments of compliance. These are:
1) submittal of a final control plan (collection and control system design plan); 2) awarding of contracts; 3) initiation of on-site construction of collection and control systems; 4) completion of on-site installation of collection and control systems; and 5) final compliance.

The State may submit a schedule that uses either all calendar dates or a mix of calendar and floating dates, or a State could submit a schedule with dates that all float. The dates may float from the effective date of EPA's approval of the State plan or the date the Annual Emission Rate Report shows that NMOC emissions equal or exceed 50 Mg/yr.

For the fourth and fifth increments of progress, completion of installation of collection and control systems and final compliance, respectively, if a floating date is used, that date must be no later than 30 months after the Annual Emission Rate Report first shows that the landfill has reached or exceeded an annual NMOC emission rate of 50 Mg/yr .

Question No. 7: Are public hearings required prior to submittal of a State plan?

Answer: Adequate opportunity for public hearings is required. The requirements described in Section 3.9 of this document apply and require the opportunity for public hearings on State plans prior to submittal. If after adequate notice, no one requests a hearing, the hearing is not required.

Question No. 8: Can the States incorporate the MSW landfill progress reports into their 40 CFR Part 51, § 51.321 annual report for SIPs?

Answer: Yes, EPA encourages States/EPA coordination to work with the EPA to minimize any potential duplication of reporting requirements and to tailor the reports to ensure the most productive compliance and enforcement activities.